

APPENDIX A – PUBLICATIONS AND ACADEMIC BACKGROUND

First and foremost, I have spent over five years, from 2007 to present, at the SHK. During this time I researched vigorously, all week, month after month, year after year with the goal of graduating. I fervently displayed my tenacity to my research by not only the time invested, quality work produced, relationships cemented, but also by using much of my own money. I worked closely with fellow students, I audited anatomy courses, I studied very hard to understand the mechanics of the human body, and I established relationships with various universities and research groups. Throughout my studies, my goal was to always do my very best so as to gain the confidence of my advisors and the SHK in my scientific abilities. Additionally, I wanted to showcase the research conducted at the SHK through the many national and international conferences I attended, the international peer-reviewed scientific journals my work has been published in, and the research collaborations with other universities I engaged with. My efforts in the aforementioned areas as well as the expenses I incurred to undertake this substantiates my level of dedication to my studies. During this period of time I matured as a student, a researcher, and a person. It is my firm belief I did my very best and this can be confirmed by my supervisor, co-supervisor, the AnyBody Research Group in Denmark, and my peers.

Past Studies and Accomplishments

Prior to my studies at the University of Ottawa, I graduated with a Bachelors of Aerospace Engineering degree from Ryerson University, and I then immediately went to graduate school where I graduated with honours from the Masters of Applied Science Mechanical Engineering program also at Ryerson University. While there, I published six peer-reviewed conference papers, three peer-reviewed journal papers, won many best paper prizes at various conferences, and received the Governor's General Academic Gold Medal (award for the highest academic standing at the Graduate level). Below are my accomplishments prior to joining the University of Ottawa.

Degrees

1. Honors Masters of Applied Science Degree, M.A.Sc. in Mechanical Engineering: Ryerson University, Toronto, Ontario, 2002
2. Bachelors of Aerospace Engineering Degree, B.Eng.: Aerospace Engineering, Ryerson University, Toronto, Ontario, 2001

Peer-Reviewed Conference Publications

1. Ali, N., and Behdinan, K., " Conceptual Geometry Optimization of Aircraft using AI Techniques," International Conference on Multidisciplinary Design in Engineering, Canadian Society of Mechanical Engineers, Nov. 2001.
2. Ali, N., and Behdinan, K., "Stability and Control in Aircraft Conceptual Design Using Genetic Algorithms," 1st American Institute of Aeronautics and Astronautics Aircraft Technology, Integration and Operation Forum, San Francisco, Paper No., AIAA-2001-5257, Sept. 2001
3. Ali, N., and Behdinan, K., " Application of Genetic Algorithms to Aircraft Conceptual Design with Constraints in Stability and Control," Proceeding for the 48th Annual CASI Conference, Apr 2001

4. Ali, N., Behdinan, K., and Fawaz, Z., "Structural and Vibrational Design Optimization of Structures using GA based Finite Element Analysis," Canadian Society of Mechanical Engineers Forum, Montreal, Apr 2002
5. Ali, N., and Behdinan, K., "Conceptual Aircraft Design- A genetic Search and Optimization Approach," International Council for the Aeronautical Sciences 2002 Conference, Toronto, Sept. 2002.
6. Ali, N., Behdinan, K., and Fawaz, Z., "Design Optimization of Structures using a GA based Finite Element Analysis," 3rd. Annual Aerospace Institute Association of Canada Aerospace Technology Collaboration Forum, Montreal, May 2002.

Peer-Reviewed Journal Publications

1. Ali, N., and Behdinan, K., "Employing Soft Computing Techniques to study Stability and Control in Aircraft Design," Journal of Guidance, Control, Dynamics, American Institute of Aeronautics and Astronautics, 2003, 26,169-173.
2. Ali, N., and Behdinan, K., "Optimal Geometrical Design of Aircraft using Genetic Algorithms," Transactions of the Canadian Society of Mechanical Engineer, 2001.
3. Ali, N., Behdinan, K., and Fawaz, Z., "Applicability and Viability of a GA based Finite Element Analysis Architecture for Structural Design Optimization," Computers and Structures, 2003, 81, 2259-2271.

Awards

1. Governor General's Academic Gold Medal, 2002
2. First Prize for Best Student Paper, Aerospace Institute Association of Canada (AIAC) Research Excellence Award, 2002
3. First prize from the Canadian Society of Mechanical Engineer Design Competition, CSME conference on Multidisciplinary Design in Engineering, 2001

Upon completing my graduate degree in 2002 until 2007, I worked as an Engineer in various Engineering Design and Development departments of private industry.

Doctoral Program at the University of Ottawa

Given my passion for research I returned to academia in 2007. During the last five years (2007 to present), I studied full time at the University of Ottawa demonstrating perseverance, enthusiasm and passion for my new study domain. My accomplishments while at the University of Ottawa include five peer-reviewed conference publications and five peer-reviewed journal publications (the latter were grouped together with an Introduction and Conclusion to form my doctoral thesis.) In addition, I was a two time recipient of the Ontario Graduate Scholarship, as well as won grants from both the Canadian and International Society of Biomechanics. Lastly, I established research collaborations with two research labs as well as successfully completed an advanced course in Musculoskeletal Modeling by Multibody Dynamics at Aalborg University, Denmark.

As previously mentioned, my entire doctoral thesis (in article style format) consisting of five peer-reviewed journal papers is also presently published (please see Attachment A- [Paper 1](#), [Paper 2](#), [Paper 3](#), [Paper 4](#) and [Paper 5](#) that constitute my thesis).

Below are details of my accomplishments while at the University of Ottawa, confirmation of my ability to create and disseminate knowledge.

Peer-Reviewed Conference Publications

1. Ali, N., "Key Challenges Confronting Biomechanists aiming to predict ACL injury mechanisms," 32nd Conference of the Canadian Medical and Biological Engineering Society, Calgary, May 2009
2. Ali, N., and Farah, A., "An alternative Approach to better predict Injury mechanisms to the ACL during non-contact events," 22nd Canadian Congress of Applied Mechanics, Halifax, May 2009
3. Ali, N., Robertson, G., Rouhi, G., "Applicability of operations research and artificial intelligence approaches to non- contact anterior cruciate ligament injury studies," ISBS, Limerick, Ireland, Sept 2009
4. Ali, N., Robertson, G., Rouhi, G., "A new approach to postural stability research using the inverted pendulum mode," CSB, Kingston, Ontario, Jun 2010
5. Ali, N., Robertson, G., Rouhi, G., "Body kinematics during single-leg landing from varying heights and distances– implications for non-contact ACL injuries: case report, Porto, Portugal, June 2011

Peer-Reviewed Journal Publications

1. Ali, N., and Rouhi, G., "Barriers to understanding ACL injury mechanisms," The Biomedical Engineering Online Journal, 2010, 4, 178-189.
2. Ali, N., Robertson, G., Rouhi, G., "Utility of Operations Research and Artificial Intelligence Approaches to Non-contact Anterior Cruciate Ligament Injury Studies–Interface, Status, and Potential" Transactions of the Canadian Society of Mechanical Engineers, 2011, 35, 145-159.
3. Ali, N., Robertson, G., Rouhi, G., "Body kinematics and kinetics during single-leg landing from various vertical heights and horizontal distances: Implications for non-contact ACL injury prevention", The Knee, 2012.
4. Ali, N., Andersen, M.S., Rasmussen, J., Robertson, G., Rouhi, G "Application of musculoskeletal modeling to investigate gender bias in non-contact ACL injury rate during single-leg landing" Computer Methods in Biomechanics & Biomedical Engineering, 2013
5. Ali, N., Robertson, G., Rouhi, G "Effect of variation in gender, vertical height and horizontal distance on single-leg landing biomechanical variables related to non-contact ACL injuries, Journal of Human Kinetics, In Press

Awards

1. Certificate for successfully complete advance course in *Musculoskeletal Modeling by Multibody Dynamics* at Aalborg University, Denmark
2. University of Ottawa Graduate Program Scholarship
3. Winner of Canadian Society of Biomechanics Travel Grant
4. Winner of International Society of Biomechanics Travel Grant
5. Ontario Graduate Scholarship 2009 and 2011

Please find enclosed my detailed CV for your perusal ([please see Attachment B](#)).